



# SLURRY SEAL

PAVEMENT MAINTENANCE

Paving The Way For A Sound Investment

VERSATILE  
COST-EFFECTIVE  
DURABLE



## PAVEMENT PREVENTIVE MAINTENANCE

**A** preventive pavement maintenance strategy is an organized, systematic process for applying a series of preventive maintenance treatments over the life of the pavement to minimize life-cycle costs. It is also a program strategy intended to arrest light deterioration, retard progressive failures, and reduce the need for routine maintenance and service activities.

Recent studies support the effectiveness of preventive maintenance. The Strategic Highway Research Program (SHRP) Project H-101, Experiment SPS - 3 and the National Cooperative Highway Research Program (NCHRP) Synthesis 223, Cost-Effective Preventive Pavement Maintenance both found slurry seal to be a useful treatment.

The NCHRP Synthesis, a survey of sixty state, province, and local transportation agencies, confirms that the most cost-effective pavement management strategy — which also results in the highest pavement condition rating — is to perform preventive maintenance activities on the better-rated pavements first and then fund the rehabilitation of the poorer-rated pavements. The funding strategy that addresses the worst pavements first is the least cost-effective.

Slurry seal is a perfect fit for your pavement preventive maintenance program.

Pavement preservation is now one of the top priorities at the Federal Highway Administration.

# SLURRY SEAL: THE TOP CHOICE FOR LOW-COST PAVING AND SURFACE MAINTENANCE.

## SLURRY SEAL: THE BENEFITS

Even the best of surfaces are subject to the wear and tear caused by time, weather and traffic. No surface is permanent. But by undertaking a program of planned pavement maintenance, considerable savings in rehabilitation costs may be achieved. Your pavement surface will remain sound, usable and safe. Plus, extensive downtime needed to repair potholes or reconstruct the pavement will be reduced or eliminated.



The application of slurry seal will significantly extend the life of existing pavements by protecting the under-surface from the effects of aging and the environment. Improved surface performance is an added bonus.

Furthermore, a pavement maintenance program using slurry seal will not only help to protect your pavement, it will help to protect your paving investment. Consider all the factors, and see why slurry seal should be your top choice.

**Save Money.** Most slurry seal is economical and highly cost-effective in use compared to other pavement options.

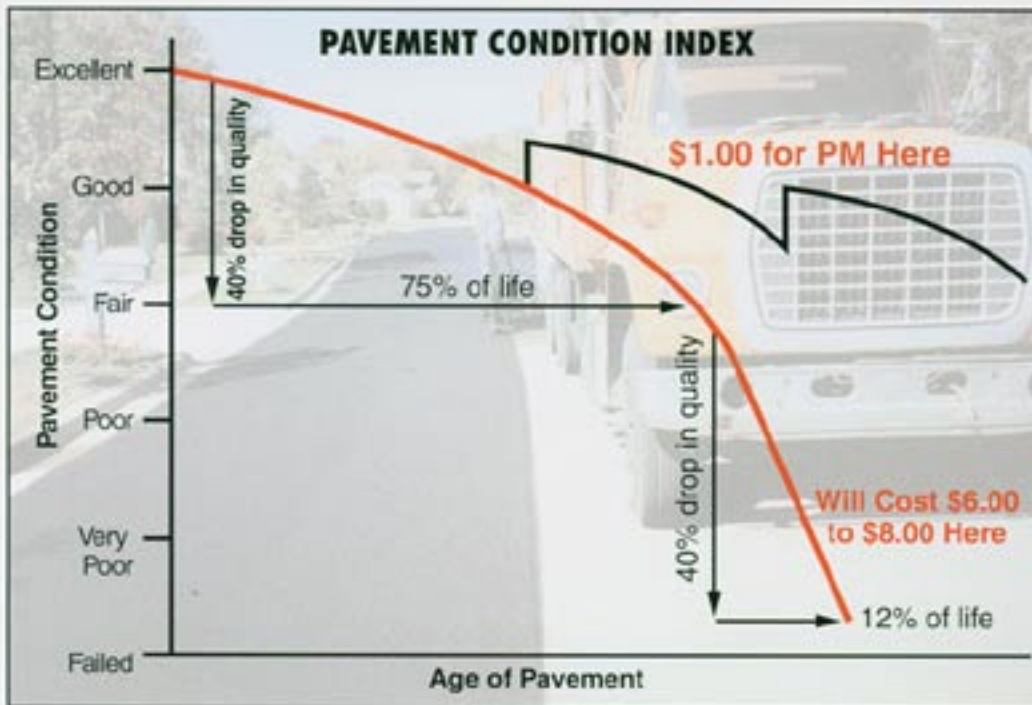
**Complete Projects Quickly.** Easy, quick application makes slurry seal especially attractive for maintaining residential streets, busy thoroughfares, parking lots and airport runways.

**Prevent Problems.** Used over newly laid pavements, slurry seal will prevent surface distresses such as the effects of weathering. Oxidation, loss of oils, loss of matrix and embrittlement of the mix are minimized. It also provides special durability and texture not available in the underlying mix.

**Correct Problems.** Existing distresses in older pavements — surface cracking, raveling, loss of matrix, increased water and air permeability and slipperiness due to flushing or aggregate polishing — can be corrected through a slurry application. Weather-proofing is also achieved, preventing further deterioration. An all-weather, long-lasting surface is created that offers skid resistance and improved handling characteristics for drivers.

**Enhance Aesthetic Value.** With one simple application, existing pavement receives a new wearing surface of uniform black color and texture. Enhanced appearance means increased property value, marketing potential and buyer acceptance. Citizen approval is high. Thoroughfares, shopping center parking lots and other public or commercial pavements treated with slurry seal become more attractive and eye-appealing.





As shown above, timing of the slurry seal treatment is important in overall cost and effectiveness.

Although the serviceability of an untreated asphalt pavement is still adequate after several years of use, pavement deterioration has already begun. A slurry seal maintenance program undertaken before significant deterioration has begun is essential to maximize pavement life. Preventive maintenance is more cost-effective than corrective maintenance.

## SLURRY SEAL: THE COMPOSITION

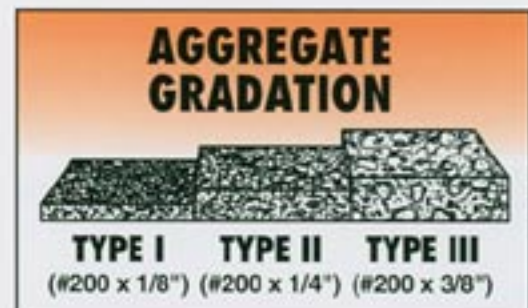
The principal materials used to create slurry seal are crushed aggregate, asphalt emulsion and fillers, which are mixed together according to a laboratory's design mix formula. Water is also added for workability.

Asphalt emulsions serve as a binder, holding the crushed aggregate together and adhering the new slurry surfacing to the old surface over which it is being applied. Various emulsions and aggregates are used to meet the conditions, specifications and requirements of individual projects.

The aggregate must be clean, crushed, durable, properly graded and uniform. The asphalt emulsion is a three-part system consisting of asphalt, water and emulsifier. Fillers such as portland cement, hydrated lime or aluminum sulfate liquid are often used in small quantities as stabilizers or chemical modifiers.

**Types of Slurry Seal.** Emulsions of varying composition and setting times are mixed with any one of three grades of aggregates to create slurry seal mixes for specific purposes.

Aggregate types are I (fine), II (general), and III (coarse). Fine aggregate mixtures are used for maximum crack penetration and sealing in low density/low wear traffic areas. Type II aggregates are the most commonly used and are widely employed where moderate to heavy traffic is found. They seal; correct moderate to severe raveling, oxidation and loss of matrix; and improve skid resistance. Type III corrects severe surface conditions, which prevents hydroplaning and provides skid resistance under very heavy traffic loads.



A slurry seal for nearly any need or condition can be custom-designed to satisfy the most difficult requirements.



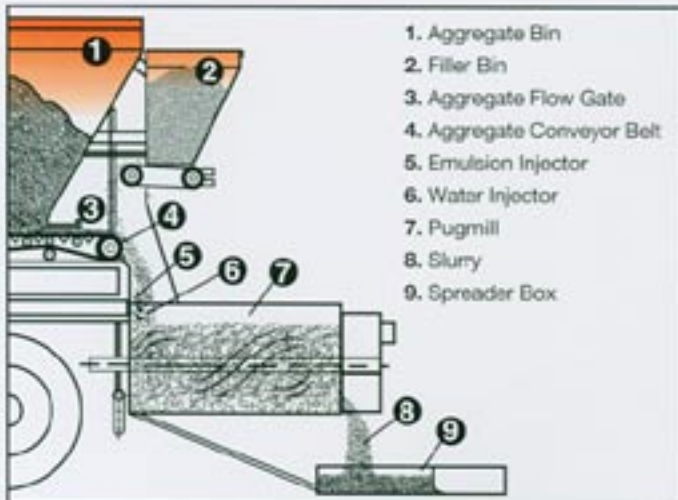
## SLURRY SEAL: THE WAY IT IS MADE

Slurry is made in specially designed equipment, either truck-mounted or continuous run. This equipment carries a quantity of unmixed materials which are proportioned and blended together through a continuous flow mixing chamber. The use of this technologically-advanced machinery insures a smooth, consistently uniform mixture.

Slurry is made quickly and accurately at the project site. Mixing and spreading are accomplished in one continuous operation, with the surface being covered quickly and reopened to travel within a few hours.

## SLURRY SEAL: THE WAY IT IS APPLIED

Slurry seal is applied to an existing pavement surface by means of a spreader box linked to the slurry mixing unit. Slurry is introduced into the spreader box, which then lays down the slurry coating as the mixer/spreader is driven forward.



The box is capable of spreading the slurry seal over the width of a traffic lane in a single pass and is constructed so that close contact with the existing surface is maintained. This insures uniform application of the new coating on a variety of configurations encompassing various crown shapes, super-elevated sections and shoulder slopes.

Trained operators continually monitor the mixing procedure. Other personnel clean the surface before slurry applications, barricade the street, inspect the operation in progress for uniformity, clean metal utility covers after application and complete slurry seal spreading in any area inaccessible to the spreader box.



## SLURRY SEAL: THE TOP CHOICE FROM ANY PERSPECTIVE



In whatever terms you consider — versatility, cost-effectiveness, or durability — no matter how you look at it, slurry seal has you covered.

So, when you are planning your pavement maintenance, place it in the capable hands of an International Slurry Surfacing Association (ISSA) member. Because we are ISSA contractors, we are dedicated to providing you with expert advice, reliable job quotes, and dependable service.

**For more information, contact us at the number shown on the back cover of this brochure. You can count on ISSA members for fast, efficient service from project start to finish.**



An aerial photograph of a long suspension bridge spanning a body of water. The bridge has two large white towers and a long approach viaduct. A slurry seal application machine is visible on the bridge deck, applying a dark material to the pavement. The sky is blue with some clouds.

## **SLURRY SPANS THE GLOBE WITH TOP-FLIGHT PAVEMENT SOLUTIONS**

- Most versatile pavement treatment system available
- Extremely cost-effective
- Extends life of existing pavement by protecting it from oxidation and deterioration
- Provides a durable, all-weather, dust-free, nonbleeding surface
- Ready for use just hours after application
- Improves skid resistance and road handling characteristics without hazardous, loose chips
- Fills minor cracks and voids, provides black color and good texture in a single pass
- Economical solution to preserving capital investment in pavements
- Can be applied to most paved surfaces

## SLURRY SEAL: THE TOP CHOICE THE WORLD OVER

This publication is produced and distributed worldwide by the International Slurry Surfacing Association (ISSA). ISSA is a non-profit organization composed of individuals, corporations, and governmental agencies who provide the industry with machinery, materials and services. ISSA objectives include:

- Promoting the increased use of asphalt slurry seal for efficient pavement surfacing;
- Providing technical data for monitoring and upgrading the slurry seal product;
- Advocating and encouraging public and private interests in the use of slurry seal as an effective, cost-saving and safe addition to road maintenance programs;
- Encouraging and promoting ethical construction practices by members of this association and within the industry; and
- Aiding members of the association in furthering the success of slurry surfacing.

When you are considering a pavement project, make the right choice for a solid investment. Members of the International Slurry Surfacing Association are ready to respond. For more detailed information, refer to ISSA Design Technical Bulletin A 105 and ASTM D-3910.



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